1. A method of determining the etch rate and time to etch as a function of the properties of the etching process and of the film being etched, comprising the steps of:

providing a rate formula $ER(C,T) = ER_0 * C * exp(-E_a/RT) + A$;

providing a substrate;

providing an etch bath in a tank;

providing an etch concentration monitor in said tank;

providing a temperature monitor in said tank;

forming a film over said substrate;

measuring the initial thickness of said film over said substrate;

placing said film on said substrate in said tank;

starting the etching of said film in said tank, and simultaneously recording the start time of said etching;

measuring a first temperature of said etch bath in said tank;

measuring a first concentration of said etch bath in said tank;

stopping said etching of said film, and recording the stop time of said etching;

removing said substrate with said film thereon from said tank;

measuring the final thickness of said film on said substrate;

calculating a first film loss by subtracting said initial thickness from said final thickness of said film;

calculating a first etch time by subtracting said start time from said stop time of etching;

calculating a first etch rate ($ER(T,C)_1$) as a function of said first temperature and first concentration;

repeating previous steps at second, third, (n-1) and n temperatures while holding constant said first concentration, and calculating the corresponding second, third, (n-1) and n^{th} etch rates [$ER(T)_{C2}$, .. $ER(T)_{C(n-1)}$, $ER(T)_{Cn}$] values as a function of said temperatures, and their statistical average ($ER(T)_{C,avg.}$);

repeating previous steps at second, third, (n-1) and n concentration while holding constant said first temperature, and calculating the corresponding second, third, (n-1) and n^{th} etch rates [$ER(C)_{T2}$, .. $ER(C)_{T(n-1)}$, $ER(C)_{Tn}$] values as a function of said concentrations, and their statistical average ($ER(C)_{T,avg.}$);

using said values in said formula to calculate etch rate ER for subsequent etching of said film for a specified film loss or to a specified film thickness;

providing a substrate having formed thereon a first film to be etched and a second film, wherein a first film thickness of said first film is less than a second film thickness of said second film;

calculating a film loss ΔH for said specified film loss or for said specified film thickness; and

calculating etch time.

2. The method of claim 1, wherein said ER(C,T) is etch rate as a function of concentration (C), and temperature (T).

3. The method of claim 1, wherein said C is etch solution concentration, E_a, etch activation energy, R, universal gas constant, T, temperature of the etch solution, ER_0, a constant, and A, another constant.

4. The method of claim 1, wherein said initial film thickness is designated as H_A and said final film thickness is designated as H_B.

5. The method of claim 1, wherein said film loss is $\Delta H=(H_A-H_B)$.

6. The method of claim 1, wherein said etch time is calculated using the formula $t= \Delta H/ER$.

7. A method of determining the etch rate and time to etch as a function of the properties of the etching process and of the film being etched, comprising the steps of:

providing a rate formula $ER(C,T) = ER_0*C*exp(-E_a/RT) + A$;

rewriting said formula in a simplified form as $ER(C) = K*C + A$;

determining the values of first constant K and second constant A in said formula for said etching solution;

using said values of said first and second constants in said simplified equation to calculate an etch rate;

providing a target film loss or a target film thickness; and

calculating etching time, or "time to etch".

8. The method of claim 7, wherein said ER(C,T) is etch rate as a function of concentration (C), and temperature (T).

9. The method of claim 7, wherein said C is etch solution concentration, E_a, etch activation energy, R, universal gas constant, T, temperature of the etch solution, ER_0, a constant and A, another constant.

10. The method of claim 7, wherein said etching time is obtained by dividing said target film loss by said etch rate.

11. A method of determining the etch rate and time to etch as a function of the properties of the etching process and of the film being etched, comprising the steps of:

providing a rate formula $ER(C,T) = ER_0 * C * exp(-E_a/RT) + A$;

rewriting said formula in a simplified form as $ER(C) = K*C + A$;

determining the values of first constant K and second constant A in said formula for said etching solution;

using said values of said first and second constants in said simplified equation to calculate an etch rate;

providing a substrate having formed thereon a first film A to be etched and a second film B, wherein a first film thickness of said first film A is H_A , and a second film thickness of said second film B is H_B;

calculating a film loss ΔH; and

calculating etch time.

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12. The method of claim 11, wherein said ER(C,T) is etch rate as a function of concentration (C), and temperature (T).

13. The method of claim 11, wherein said C is etch solution concentration, E_a, etch activation energy, R, universal gas constant, T, temperature of the etch solution, ER_0, a constant, and A, another constant.

14. The method of claim 11, wherein said film loss ΔH is $x-(H_B-H_A)$, wherein said H_B is greater than said H_A, and x is the desired depth height of said film A above said film B after etch.

15. The method of claim 11, wherein said film loss is $\Delta H = (H_A-H_B)-x$, wherein said H_A is greater than said H_B, and x is the desired depth height of said film A above said film B after etch.

16. The method of claim 11, wherein said film loss is $\Delta H = (H_A-H_B)$, wherein before etch, said H_A is greater than said H_B, and after etch, they are of the same height.

17. The method of claim 11, wherein said film loss is $\Delta H = (H_A - H_B) + x$, wherein before etch, said H_A is greater than said H_B, and after etch, said film B is higher than said film A by the step height of x.

18. The method of claim 11, wherein said etch time is calculated using the formula $t = \Delta H/ER$.